

REMARKS

Claims 1-3, 5-6 and 9-16 are currently pending in the present application. Claims 4, 7, and 8 were canceled without prejudice or disclaimer thereto.

Independent claims 1, 12 and 16 were amended to change the Markush group from gluconic acid and salts thereof to a potassium gluconate. Adequate written descriptive support for this amendment can be found throughout the detailed specification including original claim 4. Dependent claims 11 and 15 were amended to depend on independent claim 1 and be consistent with independent claim 1.

Double Patenting Rejection

Claims 1-16 were rejected under obviousness-type double patenting over U.S. 6,773,564 in view of one or more references. The rejection is traversed and it is respectfully submitted that the pending claims are patentable over the cited references.

Independent claims 1, 12 and 16 are directed to a glucose sensor and include a reaction layer containing an admixture of PQQ dependent glucose dehydrogenase and potassium gluconate. The combination required by the claims provides advantages that were neither taught or apparently appreciated by the cited U.S. 6,773,564.

For example, when a potassium gluconate is added to a glucose sensor and stored for a certain period (Fig. 4) and compared with a sensor without potassium gluconate (Fig. 3), it is shown that an excellent linearity can be obtained at high glucose concentration of 400 mg/dl or more after storage. See also specification at pages 17-18. This effect is even more pronounced when considering that before storage, a glucose sensor can be assembled having linearity at a

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glucose concentration of 500 mg/dl or more but its linearity without the potassium gluconate fades at high glucose concentration after storage.

Potassium gluconate exhibits improved performance even when other additives such as phthalic acid, maleic acid, succinic acid or their salts, are added to a reaction layer (See Figs. 7, 9 and 11). In these examples, an excellent linearity can be obtained at a high glucose concentration of 500 mg/dl or more before and after storage. From the data present in the specification, it can be concluded that the potassium gluconate advantageously improves the linearity of response of a glucose sensor particularly at a high concentration of glucose and particularly after storage.

In contrast, there is no teaching of the advantages of improving linearity response after storage in U.S. U.S. 6,773,564 notwithstanding the fact that the overall value of response is increased. Moreover, responses at a high concentration of 500 mg/dl or more is not disclosed in the cited patent. See, e.g., Figs. in the reference. Accordingly, it is respectfully submitted that the presently claimed invention is not obvious over the cited references. Reconsideration is respectfully solicited.

Rejection Under 35 USC 102

Claims 12 and 16 were rejected as anticipated by 6,773,564 to Yuguwa et al. The rejection is traversed and it is respectfully submitted that claims 12 and 16 are novel over the cited reference.

As discussed above independent claims 12 and 16 are directed to a glucose sensor and include a reaction layer containing an admixture of PQQ dependent glucose dehydrogenase

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and potassium gluconate. For at least this reason, the claims are novel over Yuguwa.

Accordingly, reconsideration and withdrawal of the rejection are respectfully solicited.

Rejection Under 35 USC 103

Claims 1-11 and 13-15 were rejected as unpatentable over 6,773,564 to Yuguwa et al. in view of certain other references. The rejection is traversed and reconsideration respectfully solicited.

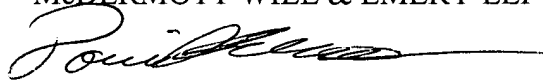
It is respectfully submitted that the applied reference of 6,773,564 to Yuguwa et al. does not qualify as prior art under 35 USC 103(c) of the present application. Applicant respectfully submits that the entire rights to the subject matter of 6,773,564 to Yuguwa et al. and the claimed invention were commonly owned by the same organization, or subject to an obligation of assignment to the same organization at the time that the claimed invention was made. Accordingly, reconsideration and withdrawal of the rejection are respectfully solicited.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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